## ABSTRACT

Apparatus for transferring information within a cellular network, including a base-station transceiver system (BTS) positioned at a first location, and an antenna assembly, positioned at a second location remote from the first location. The BTS includes communication control circuitry which generates down-link radio-frequency (RF) signals and processes up-link RF signals, and first transducer circuitry which modulates a first beam of unguided electromagnetic radiation with the down-link RF signals and demodulates a second beam received from the antenna assembly to recover the up-link signals.

The antenna assembly includes second transducer circuitry which modulates the second beam with the uplink signals, and radiates the modulated beam to the BTS. The second transducer circuitry also demodulates the first beam to recover the down-link signals, and transfers the signals to an antenna, included in the assembly, which radiates the down-link signals.